Ampelomyces quisqualis (Cicinnobolus cesatii) on Queensland Erysiphaceae

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AMPELOMYCES QUISQUALIS (CICINNOBOLUS CESATII) ON QUEENSLAND ERYSIPHACEAE

Ampelomyces quisqualis Ces., *Bot. Zeit.* (1852) **10:** 301.

Cincinnobolus cesatii de Bary, *Abh. senckenb. naturf. Ges.* (1870) **7:** 431 (Beitrage zur Morphologie und Physiologie der Pilze 111: 71), pls. 11, 12, figs. 5–13.

Figures 1 and 2

Hyphae of the hyper-parasite were hyaline and septate; they were present within the hyphae, conidiophores, and conidia of infected mildews. Pycnidia were light brown in transmitted light and varied in shape from sub-globose to pyriform. Pycnidial shape appeared to be determined by the shape of the structure within which they developed; in the *Quercus* mildew they occurred within terminal conidia and were sub-globose, whereas in the other mildews they developed within conidiophores and were ellipsoid or pyriform. Pycnidia contained one-celled, hyaline, guttulate conidia which were ovoid, clavate, cylindrical, or curved. Dimensions are given in Table 1.

TABLE 1

DIMENSIONS OF PYCNIDIA AND CONIDIA IN *Ampelomyces* SPECIMENS

HOST	PYCNIDIA (microns)		CONIDIA (microns)	
	Length	Width	Length	Width
Oidium sp. (*Erysiphe cichoracearum*) on *Cestrum parqui*	60–105	30–53	5.5–8.5	1.5–3.0
Oidium sp. (*Sphaerotheca fuliginea*) on *Euphorbia hirta*	48–90	30–45	4.0–6.5	2.0–3.5
Oidium sp. (*Microsphaera alphitoides*) on *Quercus pubescens*	33–50	30–43	5.5–7.0	2.0–3.0
Oidium sp. (*S. fuliginea*) on *Verbena hybrida*	33–66	23–40	4.0–5.5	2.0–4.0
Oidium sp. (*E. cichoracearum*) on *Zinnia elegans*	47–83	23–41	4.0–6.5	2.0–4.0

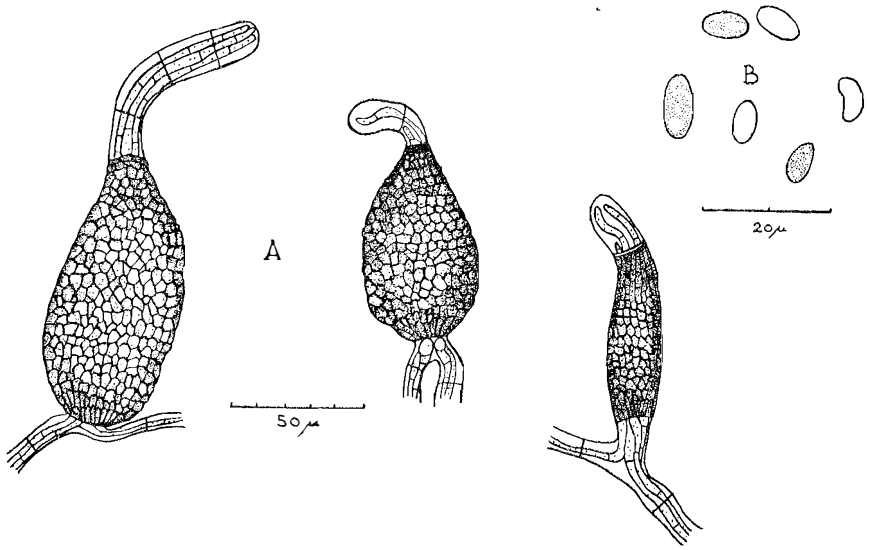

FIG. 1.—*Ampelomyces quisqualis* on *Zinnia elegans* powdery mildew. A. Pycnidia. B. Conidia.

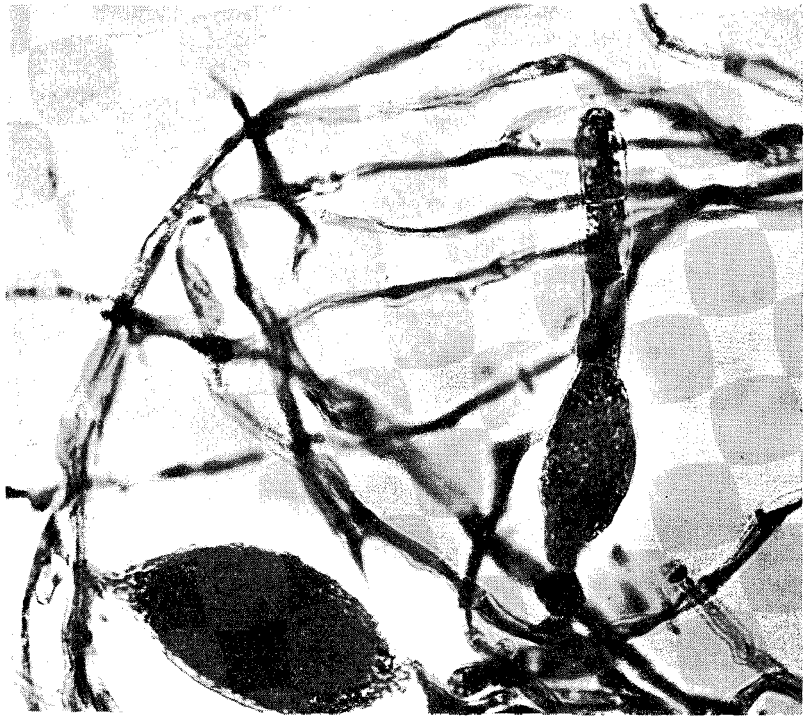

FIG. 2.—*Ampelomyces quisqualis* on *Z. elegans* powdery mildew. Pycnidia (x 600).

Specimens: BRIU* 2041, on *Oidium* sp. (*Erysiphe cichoracearum* DC.), on *Cestrum parqui* L'Hérit., Brisbane, July 1957; BRIU 1951, on *Oidium* sp. (*Sphaerotheca fuliginea* (Schlecht.) Poll.), on *Euphorbia hirta* L., Brisbane, May 1957; BRIU 2056, on *Oidium* sp. (*Microsphaera polonica* Siem.), on *Hydrangea macrophylla* (Thunb.) Ser., R. F. Langdon, Brisbane, July 1959; BRIU 2044, on Oidium sp. (*Microsphaera alphitoides* Griff. & Maubl.), on *Quercus pubescens* Willd., R. F. Langdon, Brisbane, October 1959; BRIU 2051 on *Oidium* sp. (*S. fuliginea*), on *Verbena hybrida* Voss., Brisbane, May 1958; BRIU 2045, on *Oidium* sp. (*E. cichoracearum*), on *Zinnia elegans* Jacq., Brisbane, April 1957.

Pycnidia in the mildew on *Hydrangea* were immature and contained no conidia.

In de Bary's description of the species, pycnidial dimensions are 25–35 x 9–15 μ, and conidial dimensions 2.5–3.0 x 1 μ (Saccardo, 1884). However Diedecke claims that pycnidia are 25–60 x 10–15 μ, and conidia 5–10 x 2–4 μ (Grove, 1935).

De Bary was the first to realise that the species was hyper-parasitic and not part of the mildew life-cycle and he named the species *Cicinnobolus cesatii*. This name is the one generally used for the species, but Rogers (1959) has pointed out that it is illegitimate and that *Ampelomyces quisqualis* Ces. should be used instead.

Many species of the genus *Cicinnobolus* have been described. All are parasitic on mildews and all have allegedly distinctive host preferences and morphology, but Blumer (1933) investigated fourteen of these species experimentally and concluded that they showed no distinctive host preferences and were indistinguishable. It would seem that unnecessary synonymy could be avoided if the genus were regarded as being monotypic until further experimental work, such as that of Emmons (1930) and Blumer (1933), has been carried out.

The Queensland specimens are considered to be *Ampelomyces quisqualis* Ces. This is the first record of the species in Queensland on the hosts listed above.

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*BRIU = Herbarium, Department of Botany, University of Queensland.